

WHAT IS CLAIMED IS:

1. A method for achieving superantigen mediated expansion of antigen-specific T cells for cancer and infectious agent treatment/prophylaxis which comprises administering a tumor or infectious agent specific antigen composition, followed by administration of a superantigen composition at an optimized time interval following said administering of said tumor or infectious agent specific antigen composition to maximize the cellular immune response to said antigen, the humoral immune response to said antigen, the cytokine response to administration of said antigen, or combinations of said enhancements.
2. The method according to claim 1 wherein said superantigen composition comprises a combined SEA/SEB composition.
3. The method according to claim 1 wherein said superantigen composition is administered at least four days after administration of said antigen.
4. The method according to claim 1 wherein said superantigen composition is administered at least seven days after administration of said antigen.
5. The method according to claim 1 wherein said superantigen composition includes superantigens with  $V\beta$  specificities for enhancing antigen-specific immune responses to various pathologic conditions associated with specific antigenic mediators or markers.
6. The method according to claim 1 wherein different combinations of superantigens are administered in order to expand the  $V\beta$  repertoire against specific antigens.
7. The method according to claim 1 for inducing cellular, humoral and cytokine responses that confer host defenses against various antigens associated with a wide range of

pathologic conditions comprising administering an antigen followed at a discrete time interval thereafter with administration of a superantigen composition.

8. The method according to claim 1 for vaccinating against pathologic conditions selected from infectious disease and tumors, which comprises administering specific antigens associated with the specific pathologic condition sought to be prevented, followed by a regimen of booster vaccinations and superantigen administration at optimized times and dosages, in relation to the timing and dosage of administering said specific antigens.
9. The method according to claim 1 whereby superantigen induced effects are exploited to advantage in cases where immune responses are needed to be rapidly and potently enhanced, as in cancer and in immunoprophylaxis of specific antigen-associated diseases.
10. The method according to claim 9 wherein said immunoprophylaxis is to prevent AIDS via enhancement of anti-HIV antigen immune responses, Hepatitis B, via enhancement of anti-hepatitis B virus core or surface antigen immune responses, cancer via enhancement of anti-tumor antigen immune responses.
11. The method according to claim 1 wherein said superantigen is a superantigen agonist or antagonist peptide or a combination of peptides, peptides and proteins, or combinations of proteins.
12. A method of protecting an animal or human against infection and tumor development which comprises administering a superantigen at an appropriate time after vaccination with a tumor or infectious-agent specific antigen in said animal or human in which said method is practiced.
13. The method according to claim 12 wherein the dosage of superantigen is titrated to achieve the maximum beneficial immune response without inducing unacceptably large toxic side-effects.

14. A method of enhancement of tumoricidal activity which comprises activating splenocytes by treating a human or animal in need of such treatment with a tumor antigen vaccination and subsequently administering one or more superantigens.
15. A method of enhancing cytokine production which comprises treating a human, animal or isolated cell with an antigen vaccination and subsequently administering one or more superantigens.
16. A method of inducing an anamnestic response in a human or animal in which it is desirable to induce said anamnestic response which comprises treating said human or animal in need of such treatment with an antigen vaccination and subsequently administering one or more superantigens.
17. A method of inducing an enhanced antigen-specific immune response which comprises treating a human or animal in need of such treatment with an antigen vaccination and subsequently administering one or more superantigens.
18. A method of treating a human or animal suffering from a disease which comprises removing a portion of diseased tissue, inactivating said removed portion of diseased tissue, removing as much residual diseased tissue as possible by chemotherapy, radiation, or surgery, administering a portion of said inactivated disease tissue, and subsequently administering one or more superantigens.